

# SEQUENCE LISTING

<110> Bass, Michael B.  
Jing, Shuqian

<120> Fibroblast Growth Factor-Like Molecules and Uses  
Thereof

<130> 01-006-A1

<140>

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<150> 60/188,786

<151> 2000-03-13

<160> 11

<170> PatentIn Ver. 2.0

<210> 1

<211> 1330

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (610)..(1245)

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agggcatgga tggagaagtg ccaagggccc ctgtttggtc acttccgaag agcaaaaacg 180

tgttgagagg agaccggttt aagatttcaa acagaacctc cccagcgcg c atgaaaggac 240

ttgattagca tatgtcaaga ggaccgcgtt atatactcgg tgtgtatgta cacaggactc 300

tgatctgac agtttgcgga attggagccc cagccaacag ccctagtcct agtattggca 360

gcggcagcta tagatatttc tgcagagcca gcagccggct cccacctacc caaggagaga 420

agatcgctcc aagacagtga gagcttccct gccatttcag tgcaaagtcc ctccggagcg 480

acctcagagg agtaaccggg ccttaacttt ttgcgctcgt tttgctataa tttttctcta 540

tccacctcca tcccaccccc acaacactct ttactggggg ggtcttttgt gttccggatc 600

tccccctcc atg gct ccc tta gcc gaa gtc ggg ggc ttt ctg ggc ggc ctg 651

Met Ala Pro Leu Ala Glu Val Gly Gly Phe Leu Gly Gly Leu

1

5

10

gag ggc ttg ggc cag cag gtg ggt tcg cat ttc ctg ttg cct cct gcc 699

Glu Gly Leu Gly Gln Gln Val Gly Ser His Phe Leu Leu Pro Pro Ala

15

20

25

30

ggg gag cgg ccg ccg ctg ctg ggc gag cgc agg agc gcg gcg gag cgg 747  
 Gly Glu Arg Pro Pro Leu Leu Gly Glu Arg Arg Ser Ala Ala Glu Arg  
 35 40 45

agc gcc cgc ggc ggg ccg ggg gct gcg cag ctg gcg cac ctg cac ggc 795  
 Ser Ala Arg Gly Gly Pro Gly Ala Ala Gln Leu Ala His Leu His Gly  
 50 55 60

atc ctg cgc cgc cgg cag ctc tat tgc cgc acc ggc ttc cac ctg cag 843  
 Ile Leu Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Gln  
 65 70 75

atc ctg ccc gac ggc agc gtg cag ggc acc cgg cag gac cac agc ctc 891  
 Ile Leu Pro Asp Gly Ser Val Gln Gly Thr Arg Gln Asp His Ser Leu  
 80 85 90

ttc ggt atc ttg gaa ttc atc agt gtg gca gtg gga ctg gtc agt att 939  
 Phe Gly Ile Leu Glu Phe Ile Ser Val Ala Val Gly Leu Val Ser Ile  
 95 100 105 110

aga ggt gtg gac agt ggt ctc tat ctt gga atg aat gac aaa gga gaa 987  
 Arg Gly Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Asp Lys Gly Glu  
 115 120 125

ctc tat gga tca gag aaa ctt act tcc gaa tgc atc ttt agg gag cag 1035  
 Leu Tyr Gly Ser Glu Lys Leu Thr Ser Glu Cys Ile Phe Arg Glu Gln  
 130 135 140

ttt gaa gag aac tgg tat aac acc tat tca tct aac ata tat aaa cat 1083  
 Phe Glu Glu Asn Trp Tyr Asn Thr Tyr Ser Ser Asn Ile Tyr Lys His  
 145 150 155

gga gac act ggc cgc agg tat ttt gtg gca ctt aac aaa gac gga act 1131  
 Gly Asp Thr Gly Arg Arg Tyr Phe Val Ala Leu Asn Lys Asp Gly Thr  
 160 165 170

cca aga gat ggc gcc agg tcc aag agg cat cag aaa ttt aca cat ttc 1179  
 Pro Arg Asp Gly Ala Arg Ser Lys Arg His Gln Lys Phe Thr His Phe  
 175 180 185 190

tta cct aga cca gtg gat cca gaa aga gtt cca gaa ttg tac aag gac 1227  
 Leu Pro Arg Pro Val Asp Pro Glu Arg Val Pro Glu Leu Tyr Lys Asp  
 195 200 205

cta ctg atg tac act tga agtgcgatag tgacattatg gaagagtcaa 1275  
 Leu Leu Met Tyr Thr  
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accacaacca ttctttcttg tcatagttcc catcataaaa taatgaccca agcag 1330

<210> 2  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 2

Met Ala Pro Leu Ala Glu Val Gly Gly Phe Leu Gly Gly Leu Glu Gly  
1 5 10 15

Leu Gly Gln Gln Val Gly Ser His Phe Leu Leu Pro Pro Ala Gly Glu  
20 25 30

Arg Pro Pro Leu Leu Gly Glu Arg Arg Ser Ala Ala Glu Arg Ser Ala  
35 40 45

Arg Gly Gly Pro Gly Ala Ala Gln Leu Ala His Leu His Gly Ile Leu  
50 55 60

Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Gln Ile Leu  
65 70 75 80

Pro Asp Gly Ser Val Gln Gly Thr Arg Gln Asp His Ser Leu Phe Gly  
85 90 95

Ile Leu Glu Phe Ile Ser Val Ala Val Gly Leu Val Ser Ile Arg Gly  
100 105 110

Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Asp Lys Gly Glu Leu Tyr  
115 120 125

Gly Ser Glu Lys Leu Thr Ser Glu Cys Ile Phe Arg Glu Gln Phe Glu  
130 135 140

Glu Asn Trp Tyr Asn Thr Tyr Ser Ser Asn Ile Tyr Lys His Gly Asp  
145 150 155 160

Thr Gly Arg Arg Tyr Phe Val Ala Leu Asn Lys Asp Gly Thr Pro Arg  
165 170 175

Asp Gly Ala Arg Ser Lys Arg His Gln Lys Phe Thr His Phe Leu Pro  
180 185 190

Arg Pro Val Asp Pro Glu Arg Val Pro Glu Leu Tyr Lys Asp Leu Leu  
195 200 205

Met Tyr Thr  
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<210> 3

<211> 208

<212> PRT

<213> Homo sapiens

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Met Ala Pro Leu Gly Glu Val Gly Asn Tyr Phe Gly Val Gln Asp Ala  
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Val Pro Phe Gly Asn Val Pro Val Leu Pro Val Asp Ser Pro Val Leu  
20 25 30

Leu Ser Asp His Leu Gly Gln Ser Glu Ala Gly Gly Leu Pro Arg Gly

35

40

45

Pro Ala Val Thr Asp Leu Asp His Leu Lys Gly Ile Leu Arg Arg Arg  
50 55 60

Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly  
65 70 75 80

Thr Ile Gln Gly Thr Arg Lys Asp His Ser Arg Phe Gly Ile Leu Glu  
85 90 95

Phe Ile Ser Ile Ala Val Gly Leu Val Ser Ile Arg Gly Val Asp Ser  
100 105 110

Gly Leu Tyr Leu Gly Met Asn Glu Lys Gly Glu Leu Tyr Gly Ser Glu  
115 120 125

Lys Leu Thr Gln Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp  
130 135 140

Tyr Asn Thr Tyr Ser Ser Asn Leu Tyr Lys His Val Asp Thr Gly Arg  
145 150 155 160

Arg Tyr Tyr Val Ala Leu Asn Lys Asp Gly Thr Pro Arg Glu Gly Thr  
165 170 175

Arg Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val  
180 185 190

Asp Pro Asp Lys Val Pro Glu Leu Tyr Lys Asp Ile Leu Ser Gln Ser  
195 200 205

<210> 4

<211> 208

<212> PRT

<213> Rattus norvegicus

<400> 4

Met Ala Pro Leu Gly Glu Val Gly Ser Tyr Phe Gly Val Gln Asp Ala  
1 5 10 15

Val Pro Phe Gly Asn Val Pro Val Leu Pro Val Asp Ser Pro Val Leu  
20 25 30

Leu Ser Asp His Leu Gly Gln Ser Glu Ala Gly Gly Leu Pro Arg Gly  
35 40 45

Pro Ala Val Thr Asp Leu Asp His Leu Lys Gly Ile Leu Arg Arg Arg  
50 55 60

Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly  
65 70 75 80

Thr Ile Gln Gly Thr Arg Lys Asp His Ser Arg Phe Gly Ile Leu Glu  
85 90 95

Phe Ile Ser Ile Ala Val Gly Leu Val Ser Ile Arg Gly Val Asp Ser  
100 105 110

Gly Leu Tyr Leu Gly Met Asn Glu Lys Gly Glu Leu Tyr Gly Ser Glu  
115 120 125

Lys Leu Thr Gln Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp  
130 135 140

Tyr Asn Thr Tyr Ser Ser Asn Leu Tyr Lys His Val Asp Thr Gly Arg  
145 150 155 160

Arg Tyr Tyr Val Ala Leu Asn Lys Asp Gly Thr Pro Arg Glu Gly Thr  
165 170 175

Arg Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val  
180 185 190

Asp Pro Asp Lys Val Pro Glu Leu Tyr Lys Asp Ile Leu Ser Gln Ser  
195 200 205

<210> 5  
<211> 207  
<212> PRT  
<213> Homo sapiens

<400> 5  
Met Ala Glu Val Gly Gly Val Phe Ala Ser Leu Asp Trp Asp Leu His  
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Gly Phe Ser Ser Ser Leu Gly Asn Val Pro Leu Ala Asp Ser Pro Gly  
20 25 30

Phe Leu Asn Glu Arg Leu Gly Gln Ile Glu Gly Lys Leu Gln Arg Gly  
35 40 45

Ser Pro Thr Asp Phe Ala His Leu Lys Gly Ile Leu Arg Arg Arg Gln  
50 55 60

Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly Thr  
65 70 75 80

Val His Gly Thr Arg His Asp His Ser Arg Phe Gly Ile Leu Glu Phe  
85 90 95

Ile Ser Leu Ala Val Gly Leu Ile Ser Ile Arg Gly Val Asp Ser Gly  
100 105 110

Leu Tyr Leu Gly Met Asn Glu Arg Gly Glu Leu Tyr Gly Ser Lys Lys  
115 120 125

Leu Thr Arg Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp Tyr  
 130 135 140  
 Asn Thr Tyr Ala Ser Thr Leu Tyr Lys His Ser Asp Ser Glu Arg Gln  
 145 150 155 160  
 Tyr Tyr Val Ala Leu Asn Lys Asp Gly Ser Pro Arg Glu Gly Tyr Arg  
 165 170 175  
 Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val Asp  
 180 185 190  
 Pro Ser Lys Leu Pro Ser Met Ser Arg Asp Leu Phe His Tyr Arg  
 195 200 205

<210> 6  
 <211> 208  
 <212> PRT  
 <213> Mus musculus

<400> 6  
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 Val Pro Phe Gly Asn Val Pro Val Leu Pro Val Asp Ser Pro Val Leu  
 20 25 30  
 Leu Asn Asp His Leu Gly Gln Ser Glu Ala Gly Gly Leu Pro Arg Gly  
 35 40 45  
 Pro Ala Val Thr Asp Leu Asp His Leu Lys Gly Ile Leu Arg Arg Arg  
 50 55 60  
 Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly  
 65 70 75 80  
 Thr Ile Gln Gly Thr Arg Lys Asp His Ser Arg Phe Gly Ile Leu Glu  
 85 90 95  
 Phe Ile Ser Ile Ala Val Gly Leu Val Ser Ile Arg Gly Val Asp Ser  
 100 105 110  
 Gly Leu Tyr Leu Gly Met Asn Glu Lys Gly Glu Leu Tyr Gly Ser Glu  
 115 120 125  
 Lys Leu Thr Gln Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp  
 130 135 140  
 Tyr Asn Thr Tyr Ser Ser Asn Leu Tyr Lys His Val Asp Thr Gly Arg  
 145 150 155 160  
 Arg Tyr Tyr Val Ala Leu Asn Lys Asp Gly Thr Pro Arg Glu Gly Thr  
 165 170 175  
 Arg Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val

180

185

190

Asp Pro Asp Lys Val Pro Glu Leu Tyr Lys Asp Ile Leu Ser Gln Ser  
 195 200 205

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&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 7

Met Ala Glu Val Gly Gly Val Phe Ala Ser Leu Asp Trp Asp Leu Gln  
 1 5 10 15

Gly Phe Ser Ser Ser Leu Gly Asn Val Pro Leu Ala Asp Ser Pro Gly  
 20 25 30

Phe Leu Asn Glu Arg Leu Gly Gln Ile Glu Gly Lys Leu Gln Arg Gly  
 35 40 45

Ser Pro Thr Asp Phe Ala His Leu Lys Gly Ile Leu Arg Arg Arg Gln  
 50 55 60

Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly Thr  
 65 70 75 80

Val His Gly Thr Arg His Asp His Ser Arg Phe Gly Ile Leu Glu Phe  
 85 90 95

Ile Ser Leu Ala Val Gly Leu Ile Ser Ile Arg Gly Val Asp Ser Gly  
 100 105 110

Leu Tyr Leu Gly Met Asn Glu Arg Gly Glu Leu Phe Gly Ser Lys Lys  
 115 120 125

Leu Thr Arg Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp Tyr  
 130 135 140

Asn Thr Tyr Ala Ser Thr Leu Tyr Lys His Ser Asp Ser Glu Arg Gln  
 145 150 155 160

Tyr Tyr Val Ala Leu Asn Lys Asp Gly Ser Pro Arg Glu Gly Tyr Arg  
 165 170 175

Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val Asp  
 180 185 190

Pro Ser Lys Leu Pro Ser Met Ser Arg Asp Leu Phe Arg Tyr Arg  
 195 200 205

&lt;210&gt; 8

&lt;211&gt; 11

<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 8  
Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg  
1 5 10

<210> 9  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: internalizing  
domain derived from HIV tat protein

<400> 9  
Gly Gly Gly Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
1 5 10 15

<210> 10  
<211> 23  
<212> DNA  
<213> Artificial Sequence

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<223> Description of Artificial Sequence:  
oligonucleotide; PCR primer 2440-39

<400> 10  
ccatggctcc cttagccgaa gtc

23

<210> 11  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
oligonucleotide; PCR primer 2432-77

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26